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ABSTRACT

This paper presents an overview of poverty in rural America, and examines the ways in which improved education could alleviate rural poverty. The question of education as a mechanism to reduce poverty includes issues of economic demand and supply. On the demand side, labor market projections indicate that the service sector will continue to grow, while manufacturing and trade sectors decline in relative importance. Most entry level positions will require at least a high school education, whereas management positions will require a college degree. On the supply side, there are few differences in quality between rural and urban schools, the major exception being narrower curricula in rural districts. However, school-based inputs are not the only determinants of educational attainment. Cultural inputs, related to home and community resources, are also important, and these resources are lacking in poor homes and poor communities. Suggested educational strategies to reduce poverty include dropout prevention programs; early identification and intervention for at-risk students; curricula and activities structured to promote student success; lower teacher-student ratios, particularly in the primary grades; greater use of educational technology in rural schools; provision of books and simple school supplies to poor households; and adult education. It is unlikely that land grant institutions will contribute to reducing rural poverty through applied educational research. This paper contains 16 references and tables about high school dropout percentages in north Florida counties and employment growth in the United States. (SV)

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by

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Staff Paper 350

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Education: A Solution for Rural Poverty?

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Staff Paper 350 March 1989

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ABSTRACT

Can increased and enhanced educational skills eliminate poverty in rural areas? No! Can increased and enhanced educational skills reduce poverty in rural areas? Perhaps! Poverty is a complex issue and it is intertwined with so many other issues that education, of and by itself, can not significantly reduce the problem. What are some of the other interrelated issues? Nutrition policy, housing policy, community infrastructure issues, birth control education, employment and training issues and the list goes on. Education is an important piece of the puzzle but not the sole solution.

Key words: poverty, education, policy decisions

Education: A Solution for Rural Poverty?

Introduction

Poverty is defined in the dictionary (Random House) as "the state or condition of having little or no money, goods or means of support." The U.S. government defines poverty in a similar manner but instead of using words, the federal government uses numbers; poverty for a family of four in 1984 was $10,200 and in 1988 $11,650 (Bureau of Economic and Business Research). Obviously, this is a simple definition but it underscores the U.S. approach to the poverty problem over time; if you make under X dollars for some given family size then you "live in poverty". Verbally this can be translated to the lack of monetary resources required to provide for the basic needs of an individual or family.

As we discuss the issue of poverty in this symposia we need to develop broader perspectives. It is my conclusion that poverty is not only inadequate access to monetary resources but also physical resources, human capital resources, public services resources such as infrastructure, and having a standard of living so low that it renders the person powerless to alter their economic situation.

Overview

The battle to alleviate or eliminate poverty has been continuous (Cochrane) in rural America since WWII. In 1967 about 14 million rural residents fell below the poverty line and 13.5 million rural residents remained below the poverty line in 1983. More recent data (9.7 million, 1986; U.S. Bureau of the Census (A)) indicate the number of rural residents below the poverty line is declining but between 1979 and 1983 the number of rural poor increased from 9.6 million to 13.5 million.

There are some notable differences between the rural (non-metro) and urban (metro) poor. For example, the percent of individuals living in poverty over the age of 65 in rural areas is higher than urban areas. The urban poverty rate for individuals 65 and older in 1983 was 12.1 percent compared to the rural rate of 17.8 percent (Rodgers and Weiher). The gap widened in the next three years and in 1986, 19.9 percent of individuals 65 and older in rural areas and 12.5 percent in urban areas were below the poverty line (USDA).

Poverty rates for Blacks, Hispanics and Whites were all higher in rural areas than urban areas in 1986. In rural areas the percent of white families below the poverty line was almost double the urban rate (15.8 versus 8.6). White families in rural areas account for 71 percent of the U.S. non-metro poor and 57 percent of Southern non-metro poor, compared to 47.7 percent of the poor in metro areas (USDA). Still, the chances of being below the poverty level are almost three times as high for blacks compared to whites in non-metro areas (non-metro U.S. rates, black, 42.3 percent; white, 15.1 percent; southern non-metro rates, black, 43.6 percent, white, 16.5 percent).

Rates of rural poverty are on the rise in the female headed household. In 1983, 43 percent of female headed households in rural areas were in poverty compared to the 1986 rate of 47.4 percent, and a 51 percent rate in the south (U.S. Bureau of the Census(A)). The incidence of poverty among married couples in rural areas is almost double the urban rate in 1986 (12.5 percent versus 6.7 percent). In 1986 over six percent of those in poverty in rural areas worked full-time compared to a two percent rate in metro areas.

Incidence of rural poverty is also higher for the southern section of the U.S. (Rodgers and Weiher). In 1986, 14.6 percent of metro poor lived in the south and 22.6 percent of the rural poor reside in the south. Just under one-quarter of the U.S. metro population and about 10 percent of the U.S. non-metro population resides in the south. Therefore, non-metro poor in the south account for a disproportionate share of the U.S. non-metro poor. Education levels may account for some of this incidence in the south. Nationwide about 22.9 percent of metro poor and 27.8 percent of rural poor are not high school graduates. Historically, southern states have exhibited lower educational attainment than other states in the U.S. (Clouser and Libby). Of 13 states (North and South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Virginia and Texas) typically associated with the "south", nine have less than 58 percent of their adult population who have obtained a high school degree. In addition, review of state data in North Florida reveals that about one-fourth of the rural counties in the state have less than 50 percent of their adult population over the age of 25 who are high school graduates (Table 1).

Ross and Morrissey have identified two classes of poor, the temporary poor and the persistent poor. Persistent poor were identified in their study as "persons living in families with cash income below the poverty level for three years or more" between the years 1978-82. They concluded that a larger percentage of the persistent poor resided in nonmetro areas. The rural persistent poor were older and less educated. About two-thirds of persistent poor households were headed by women. About 67 percent of the persistent poor income during the period studied was received from public assistance programs. Over half of the persistent poor households had no workers in the household employed. For those who were classified as persistent poor the main occupation of employed household heads was the service sector. This sector accounted for 34 percent of employment for the persistent poor compared with an employment rate for the nonpoor in this sector of 8 percent.

Education: A Means for Reducing Rural Poverty

It seems that most people concur that enhanced educational skills represent one method to reduce the incidence of poverty in rural areas. After searching the University of Florida library system it seems this thought is more "theory" than anything verified by empirical research. Let

Table 1. Percent of Individuals with Less than High School Education in North Florida

Location	Less Than High School Education
State Avg.	33.3
Alachua	24.5
Baker	49.3
Bay	34.2
Bradford	46.4
Calhoun	53.0
Citrus	44.7
Columbia	41.1
Clay	26.3
Dixie	50.6
Duval	33.2
Escambia	32.7
Flagler	29.2
Franklin	56.0
Gadsden	52.9
Gilchrist	43.5
Gulf	41.4
Hamilton	50.6
Hernando	40.1
Holmes	56.3
Jackson	48.9
Jefferson	48.3
Lafayette	46.1
Lake	38.2
Leon	21.2
Levy	46.2
Liberty	52.3
Madison	56.5
Marion	40.5
Nassau	41.9
Okaloosa	22.6
Putnam	44.7
Santa Rosa	30.5
St. Johns	34.0
Sumpter	48.7
Suwannee	46.7
Taylor	47.4
Union	43.1
Volusia	33.5
Wakulla	43.3
Walton	49.2
Washington	49.0

Source: Derived from Table 4.30, 1985 Florida Statistical Abstract, BEBR.

me explain briefly why I reach this conclusion. In preparation for this paper my library research identified over 3700 educational articles maintained by the Florida library system. However, the vast majority of these articles dealt with subjects such as finance, history, philosophy, curricula and administration. I searched in excess of 200 manuscripts which appeared to have some relation to rural areas and the results were disappointing. Six manuscripts were identified under the subheading of "rural education" and an additional eight manuscripts were identified "education rural - United States". Only two of these manuscripts had been written in the last five years. A similar search for manuscripts dealing with rural poverty specifically ended up with like results - nine manuscripts were identified. Most were written in the 60s and 70s.

The majority of my conclusions were reached after reading a written rural policy symposia in the **Policy Studies Journal**, as well as from practical experience over a two year period with educational policy making at the state level in Indiana.

As we discuss the issue of education as a mechanism to reduce poverty in rural areas we need to discuss a variety of issues. In economic terms we can basically group all these issues under demand and supply, including factors of educational production associated with the supply side.

Demand Issues

Issues related to the demand for students by employers seem rather straight forward and will be discussed first. Where will the growth in employment be over-time by industry? Projections by the U.S. Bureau of Labor Statistics (BLS) between the years 1984-1995 indicate that most of the growth will be in service producing industries (Table 2). According to Pulver, the 40 fastest growing industries will generate over 75 percent of the net new job growth over this time period. Of the 40 major growth industries only six are not service producing sector related. In addition, the BLS estimates that not only will the service sector have the highest job growth, but by 1990 the service sector will be the largest employer in absolute terms of the major Standard Industrial Classification (SIC) sectors. Manufacturing and trade sectors will remain large employers but their relative importance will decline.

What type of employees will the service producing sector be searching for to fill these new positions? The skills desired will range considerably because the variety of industries in the service producing sector varies considerably. The U.S. service producing sector literally encompasses everything from fast food restaurants, to day care, to health care, to local and state government work. Unfortunately the breadth of job variety and income opportunity in the service producing sector is not recognized in many rural areas. In many rural areas of Florida when the term service producing is used there are objections expressed that a person can't make a living by being a "burger flipper". One thing that must be accomplished immediately is an understanding of what type industry the service sector encompasses.

Most entry level positions will require at least a high school education although some entry level positions will not require a high school degree. Management and mid-level positions will be almost entirely filled by college educated individuals. There will be limited opportunities for those with less education to move into management ranks through long-term on the job training. Skills necessary for entry level positions will include basic understanding of math, the ability to read, and the ability to communicate effectively (both orally and verbally). Higher level positions will require increased specialization in these areas. For example, basic math skills will be needed but bookkeeping and accounting principles may also be required. Reading skills for these positions will need to be advanced to comprehend technical aspects related to the job.

Obviously some skills, say for health related services, will even be more advanced. A knowledge of the skills mentioned above will be required but also will require training that includes subjects such as chemistry and anatomy for the nurse. Specialized skills will also be required of administrators of health service industries. The ability to understand complex federal and state regulations and personnel skills will be essential.

Before moving on to some of the supply related issues one other thought should be considered. Where will these future jobs be located? Certain factors attract industry and in many instances urban areas tend to be more attractive to "industry" than rural areas. Some growth will occur in rural America but most job growth, especially from the service producing sector, will occur in or near urban America. I will return to this issue before concluding.

Supply Issues

What type of student will be supplied by the school system of the future? How can we help students reach their full potential? How do we pay for the educational changes that may be necessary to address the issue of reducing poverty? Are there differences in the educational system between rural and urban areas? These are not easily answered questions. They are interrelated and empirical evidence to address some of these issue is lacking.

Schools are labor intensive with the primary cost of the school system being for teacher salaries. Teachers are also the mainstay behind pupil skills enhancement and growth. Why? They spend the most time with the student. Therefore, quality teachers are necessary.

Is there a difference in the quality of teachers' in urban and rural school districts. Studies attempting to measure differences in the skills and experience of teachers between urban and rural areas in Indiana (Debertin and Huie) suggest little difference. A summary of the study would be that Indiana school districts with high poverty levels have experienced teachers, with slightly less pay and similar college degrees.

Table 2. Projected High Employment Growth Industries

SIC Code	Title	Projected Employment Growth 1984-1995 (In Thousands)
580	Eating and Drinking Places	1255.9
739	Miscellaneous Business Services	801.4
737	Computer and Data Processing Services	675.6
820	Educational Services (Incl. State & Local)	618.9
736	Personnel Supply Services	546.6
805	Nursing and Personal Care Facilities	505.4
541	Grocery Stores	499.1
531	Department Stores	441.1
508	Machinery, Equipment & Supplies (Wholesale)	409.5
801	Office of Physicians	405.5
810	Legal Services	399.7
734	Services to Buildings	333.9
891	Engineering and Architectural Services	325.5
930	Local Govt (Ex Hosp & Ed)	316.3
920	State Govt (Ex Hosp & Ed)	311.2
806	Hospitals (Incl State & Local)	287.9
421	Trucking, Local and Distance	246.8
701	Hotels, Motels, and Tourist Courts	246.4
357	Office and Computing Machines	229.6
799	Misc. Amusement and Recreation Services	212.7
893	Accounting, Auditing, and Bookkeeping	205.4
808	Outpatient Care Facilities	199.3
594	Misc. Shopping Goods Store	181.9
367	Electronic Components and Accessories	173.7
836	Residential Care	172.8
366	Communication Equipment	169.9
307	Misc. Plastic Products	167.3
809	Health and Allied Services, N.E.C.	164.0
602	Commercial and Stock Savings Bank	161.8
489	Communication Services, N.E.C.	149.6
804	Office of Other Health Practitioners	141.9
753	Automotive Repair Shops	136.8
633	Fire, Marine and Casualty Insurance	134.0
154	Nonresidential Building Construction	132.3
802	Office of Dentists	125.3
832	Individual and Family Social Services	105.3
491	Electric Services	104.9
275	Commercial Printing	97.2
514	Groceries and Related Products (Wholesale)	95.8
621	Security Brokers and Dealers	94.9

SOURCE: *Employment of Wage and Salary Workers by Industry 1984 and Projected 1995 Alternatives*, Bureau of Labor Statistics, United States Department of Labor, November 1985. (Moderate growth estimates are used for 1995 labor force).

Other important issues include dropout rates and funding levels. How do they differ in metro and non-metro areas? Debertin addresses the issue of dropouts in rural versus urban areas. The conclusion, dropouts in North Dakota are not a problem of rural schools per se. Another study in Indiana, again completed by Debertin et. al., indicated that funding levels between rural and urban areas had been "equalized" by property tax control programs that had placed limits on property taxes for funding and shifted a larger portion of finances to state aid. Of numerous studies completed by Debertin and his collaborators one major difference was noted between rural and urban school districts. That difference was that the expanse of curriculum in rural school districts tended to be narrower.

Studies by Debertin and colleagues might conclude that we expect a fairly homogenous student to be supplied by school systems, no matter whether the student is trained in a rural or urban area. Of course, this assumes studies conducted in geographic specific areas are applicable to other states in the U.S. That conclusion is also reached only if you conclude that inputs supplied by the school system, such as teachers, textbooks and equipment are the only determinants of educational attainment.

It is my opinion that there are a host of other inputs that will determine the quality of student that graduates from the U.S. public education system. It is also my opinion that these other inputs in the educational process will be the most important as we fight against poverty in rural areas. How can these other inputs be departmentalized? Deaton might argue that cultural inputs are the way to categorize these other factors. I agree. If emphasis is not placed on education in the home then the chance for achievement is most likely reduced. However, other home and community based resources are also important. Those home based inputs are similar to the school based inputs and the home based production function for education is similar to the school based production function. Those inputs include books to read, paper to write on, pencils to write with, encyclopedias to study from, a desk to study at, for some maybe a quiet room to study in, and a parent who can be a role model and teacher.

It is these resources that are sorely lacking in both rural and urban homes beset with poverty. Remember, poverty means that not enough money is earned to supply basic needs. If you can not afford food for the table then it is unlikely you can afford pens, pencils and books for your child's education. This also underscores the concept expressed earlier when I mentioned that poverty included inadequate access to community infrastructure. Some of these household inputs could be replaced by community based inputs such as a local library. However, some poor wouldn't be able to get to the library due to a lack of public transportation. Many rural communities have an infrastructure poverty. They can't supply the basic needs of the rural area such as roads, police and fire, and water and sewer. If they can't supply these needs on their revenue base then they can't supply libraries, public transportation and enrichment programs for education.

Before closing this section I want to briefly comment on the concept of a school and home based educational production function. At a symposia at the 1988 AAEA meetings dealing with education (Clouser and Debertin) someone in the audience questioned whether the concept of an educational production function didn't detract from the fact that we were talking about children and not some good produced in a factory. My reply then was no. The concept of an educational production function was not meant to detract from the fact that we are talking about young children with different skills and abilities. Rather, it is important to determine what factors contribute to enhanced educational skills in order to make effective educational policy decisions.

Potential Policy Decisions to Reduce Poverty

What type of educational policy decisions can be made that can work towards reducing poverty? The following suggestions are not all inclusive and empirical work needs to be undertaken to verify effectiveness.

Although Debertin's North Dakota study suggested that dropout problems are not a function of rural schools per se, there is indication both nationally and in Florida, that rural areas have a larger group of adults that did not complete their high school degree. In other words I'm not completely satisfied that results from studies in other regions of the U.S. can be generalized for all areas of the country. Therefore, I would suggest that more emphasis be placed on preventing dropouts. This needs to be undertaken early in the child's educational process. Historically, many dropout prevention programs weren't started until the 9th or 10th grade. That is probably too late to begin a program and recent work in Florida by a group, Redlands Christian Migrant Association, suggests that programs need to be undertaken as early as second grade. As the name might suggest this group has worked primarily with children of migrant workers in Florida but they have recently started a pilot program for disadvantaged minority children in Florida. Indications are that early intervention for this minority pilot project is an important aspect of improving grades and therefore, encouraging children to stay in school.

Two other issues arise associated with this suggestion. Human beings and especially children do not perform well when they "learn" to expect failure. I do not think it requires a Ph.D. to determine that if a child has trouble with spelling and he is not getting assistance at home, and that he continually fails the spelling test at school that he soon will not like spelling. Curriculum for children from economically disadvantaged homes may need to be adjusted to program in success rather than failure. Suggestions might include more in-class time on math problems, more reading out loud in the classroom. etc., and all work should be structured to achieve success.

If the key to avoiding the dropout problem is early intervention with children who have special problems then some standardized program needs to be undertaken to identify those children most likely to have problems. Improvements have been made over the last decade in this area. However, in relative terms early intervention identification is a small component of

the school financial outlays.

If it is important to program for success in the early grades then it may prove beneficial to increase the number of teachers and lower the pupil-teacher level at the lower grade levels (i.e., K-2 or K-5). Remember, that almost one out of every three individuals who reside in rural areas does not have a high school degree. The amount of help they can provide to their own children is most likely very limited. This gap will continue to increase as schools adopt new technology, especially in the computer and science areas. More needs to be accomplished in the classroom.

We need to take current technology that children relate to and apply it in the classroom. Schools are basically the same today as they were 100 years ago. A square room, blackboard, desk, books, some art work and a teacher lecturing in front of the class. Schools, especially in rural areas seem to lag in technology related to computers, interactive computer programs and science labs. It cost more to supply these facilities in rural areas because of the smaller number of pupils but they are essential. Why? Many people would probably reply because they keep students current with state-of-the-art technology. I agree but I think more importantly students can be better motivated through use of these materials. Maybe it's time in rural areas to fund programs rather than students (Clouser and Debertin).

Materials that children need in order to learn must be placed in the household of the poor. Probably most important are books that children can call their own but even simple supplies like pencils and paper are not available in many poor households.

More emphasis needs to be placed on adult education. If the adult population can be trained and at the same time be taught how to help their own children, major improvements in educational performance might be achieved. A Ford Foundation grant for innovative government programs was awarded to a Kentucky school system in 1988 which has had success with a program of adult training. I would suggest the initial place to target emphasis would be for families with female heads of the household. In southern non-metro areas in 1986 it is estimated there are about 5.2 million people below the poverty line. Over 30 percent of the individuals (1.7 million) are in female headed households. Of this 1.7 million, 67.4 percent (950,000), are related children under the age of 18. This also implies an increased need for day care because over one-third of the related children in poverty (351,000) are under the age of six. Racial minority groups also deserve special attention.

The list of educational policy suggestions to reduce poverty in non-metro areas is limitless. Before closing this section I briefly want to address just two other points. First, teachers need adequate salaries. However, historical evidence suggests that increases in salaries have not had much effect on improved student performance. This is not surprising if you agree with the production function concept mentioned earlier. Hard choices will have to be made. Do we increase teacher salaries, or do we

concentrate on allocating existing funds to other programs such as those suggested, or is additional revenue required? Personally, I believe there is enough evidence to show that additional funds for education are necessary. Others though say taxpayers do not want to pay any more taxes for education. I would argue that the correct interpretation of what taxpayers are saying is "that we don't want to pay anymore taxes for the same quality of education that our children are receiving presently and we won't approve of tax increases when the decision making body will not explain exactly how those funds will be used." There is a vast difference in these two interpretations and it would be useful to find out which most truly represents the view of the taxpayer.

The final issue I want to address is who should pay for the educational programs which might reduce poverty? My answer is all taxpayers. This implies that more federal money for school programs is required. Why more federal money? Educational benefits and especially educational benefits that reduce poverty produce spillover benefits to society at large. It is not equitable to have a local community of residents to pay all the cost of education and then watch the benefits of those increased educational skills accrue to some other community where the newly trained student can move.

Education and Poverty

Can increased and enhanced educational skills eliminate poverty in rural areas? No! Can increased and enhanced educational skills reduce poverty in rural areas? Perhaps! Why such a pessimistic outlook? Poverty is such a complex issues and it is intertwined with so many other issues that education, of and by itself, can not significantly reduce the problem. What are some of the other interrelated issues? Nutrition policy, housing policy, community infrastructure issues, birth control education, employment and training issues and the list goes on. Education is an important piece of the puzzle but not the sole solution. Education alone probably will not be successful unless all these other issues are also addressed.

The Role of Land Grant Institutions

Are land grant institutions going to contribute to the body of knowledge and understanding that is required to help reduce the poverty problem in rural America? The verdict is still out. It seems unlikely land grant institutions will contribute to reducing this problem through applied research related to education. Why? A look back at the economics and rural sociology profession, the two most likely contributors to the knowledge base, indicates that the contributions to the applied research base by this group has not been large. Many people are currently interested in the issue of human capital but few are doing any empirical work. A second problem, to develop effective programming would require cultivation of new clientele groups such as local school boards, state departments of education and educational agencies in the federal government. History would indicate this has not been the strong suite of land grant institutions. Sure our clientele base has expanded but the

system as a whole remains structured around issues associated with commercial agriculture. The same is true of USDA. They can't be faulted completely though because their mission has been structured around commercial agriculture (primarily through commodity programs).

Earlier I noted that most new jobs would probably be created near or in urban areas. This has been established through several studies and has been known for some period of time. What does this imply? Individuals are going to have to leave rural areas for jobs. This does not necessarily mean individuals won't commute to urban areas for employment and live in rural areas. But we do know the desire to commute decreases drastically when the distance traveled exceeds about one hour driving time. What has been the thrust of USDA and land grant programs over the last couple of years? Based on man power and funding you have to conclude that it has not been rural development, nor adjustments in rural areas, nor the reduction in poverty or a host of other interrelated issues. More emphasis has been placed on alternative enterprises, low input sustainable agriculture, water quality and the ever present commodity programs. Where the incentives are so shall be the workers.

Most economist's would probably agree there are some niche markets for alternative products but many also concede that it unlikely any alternative commodity will provide the long-term economic income boost needed in rural America. It makes me wonder if the land grants and USDA aren't helping to contribute to the poverty syndrome in rural America. Maybe it's time to concentrate more on retraining, employment and education. The benefits of these programs might be greater than benefits derived under our current course.

Conclusion

Those who are interested can have some influence on educational policy decisions that may reduce poverty levels in rural areas. It will require development of a new support base and it will require empirical research. It is doubtful that improved educational skills alone can significantly reduce poverty in rural America.

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